

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/816,035	BEHRENS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Hector A. Agdeppa	2642	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment and Response filed 5/2/05.
2. ☒ The allowed claim(s) is/are 1-20 and 22-30 renumbered as 1-29 respectively.
3. ☒ The drawings filed on 23 September 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|   | 9. <input type="checkbox"/> Other _____.   |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with attorney of record, Philip J. Feig on 8/4/05.

The application has been amended as follows:

#### **In the claims**

Claim 21 is canceled without prejudice.

Claims 1, 3, 4, 6, 7, 13, 14, 16, 20, and 22 have been amended as follows:

1. A method for determining placement sites for equipment within a geographic area in a telecommunications network comprising the steps of:

determining a baseline architecture planning area having a tree structure wherein copper cables comprise the branches interconnecting cross-connects, central offices, and subscriber locations with associated socio-demographic data;

determining a forecast of customer demand for digital subscriber line service within said baseline architecture planning area and [using demographic data for said planning area] fitting a mixed regressive spatial autoregressive logistic (MRSAL) model to selected socio-demographic data; and

determining from said forecast the sites in said tree structure where the equipment is to be placed and the type and numbers of such equipment minimizing cost and satisfying design constraints.

3. The method in accordance with claim 2 wherein said step of determining the forecast includes accessing a geographic information system containing socio-demographic information on the telecommunications subscribers within said geographic area.

4. The method in accordance with claim 3 wherein said step of determining said planning area includes the step of determining the boundary of said area based on socio-demographic data received from said geographic information system.

6. The method in accordance with claim 4 wherein said step of determining said forecast includes acquiring socio-demographic data from said geographic information system as to the central office locations within said boundary, the map of the copper cables within said boundary, subscriber income, and number of telephone lines within said boundary.

7. A method for determining placement sites for equipment within a geographic area in a telecommunications network comprising the steps of:

determining a baseline architecture planning area having a tree structure wherein copper cables comprise the branches interconnecting cross-connects, central offices, and subscriber locations and determining the boundary of said area based on data received from a geographic information system;

determining a forecast of customer demand for digital subscriber line service within said baseline architecture planning area and using socio-demographic data for said planning area including accessing said geographic information system containing socio-demographic information on the telecommunications subscribers within said geographic area and acquiring data from said geographic information system as to the central office locations within said boundary, the map of the copper cables within said boundary, subscriber income, and number of telephone lines within said boundary, further including fitting a mixed regressive spatial autoregressive logistic (MRSAL) model to selected data from said geographic information system;

determining from said forecast the sites in said tree structure where the equipment is to be placed and the type and numbers of such equipment minimizing cost and satisfying design constraints; and

placing the specific equipment identified and the numbers of such equipment at said sites based on the determination of sites.

13. The method in accordance with claim 1 wherein said step of determining the forecast includes accessing a geographic information system containing socio-demographic information on the telecommunications subscribers within said geographic area.

14. The method in accordance with claim 13 wherein said step of determining said planning area includes the step of determining the boundary of said area based on socio-demographic data received from said geographic information system.

16. The method in accordance with claim 14 wherein said step of determining said forecast includes acquiring socio-demographic data from said geographic information system as to the central office locations within said boundary, the map of the copper cables within said boundary, subscriber income, and number of telephone lines within said boundary.

20. A method for determining placement sites for equipment within a geographic area in a telecommunications network having a tree structure wherein copper cables comprise the branches interconnecting cross-connects, central offices, and subscriber locations with associated socio-demographic data, comprising the steps of:

determining a forecast of customer demand for broadband service within each node of said tree network using socio-demographic data for said [planning] geometric area; and fitting a mixed regressive spatial autoregressive logistic (MRSAL) model to selected socio-demographic data; and

determining from said forecast the sites in said tree structure where the equipment is to be placed and the optimal types and numbers of such equipment minimizing cost and satisfying design and range constraints.

22. The method in accordance with claim 20 wherein the selected socio-demographic data is from a geographic information system.

***Allowable Subject Matter***

2. Claims 1 – 20 and 22 - 30 are allowed.

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**Conclusion**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,067,148 (Sardana) teaches a method and apparatus for planning telephone facility networks relying on certain demographic data.


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hector A. Agdeppa whose telephone number is 571-272-7480. The examiner can normally be reached on Mon thru Fri 9:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad F. Matar can be reached on 571-272-7488. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hector A. Agdeppa  
Examiner  
Art Unit 2642

H.A.A.  
August 4, 2005

  
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